IDAHO STATE DEPARTMENT OF AGRICULTURE
DIVISION OF PLANT INDUSTRIES
BUREAU OF FEEDS AND PLANT SERVICES
1999 SURVEY, NURSERY, AND FIELD INSPECTION SUMMARY

APPLE MAGGOT (AM) (Rhagoletis pomonella Walsh) - No positive detections were made at any sites trapped within the control area this year. Three adults were caught at a sentinel site on native hawthorn in Boise County, which is far removed from any commercial fruit production. Traps at this site have routinely caught a dozen or so AM every year for the past several years, but very few have been caught there the past two or three years. This year 147 traps were placed in seven counties (Ada, Boise, Bonner, Canyon, Gem, Payette, and Washington) in and around the commercial apple production areas of each county.

ASIAN LONGHORNED BEETLE (ALB) (Anoplophora glabripennis) - No formal survey was conducted for the presence of this beetle in Idaho. However, all county extension leaders and

Photos: Left - Female ALB, Center - Infested trees on Ravenswood Street, Chicago, IL before removal, Right - Ravenswood Street after removal.

city foresters were sent information on this insect. State, Federal and University personnel did respond to several public inquiries and reports of beetle sightings. Sightings turned out to be, for the most part, the banded Alder borer (Rosalia funebris Motschulsky) or the white spotted sawyers (Monochamus scutellatus (SAY)). Structure surveys are very expensive to perform and to be accurate, should be done in "Bucket Trucks" or by experienced tree climbers on a tree-by-tree basis. Experience in Chicago has shown ground surveys to be ineffective in detecting all but the most heavily infested trees. There is extensive information about the pest on the Internet.

BEET NECROTIC YELLOW VIEN VIRUS (BNYVV) (Rhizomania) – With all sugar beet growing counties in the state found to be infested, formal detection surveys are no longer being conducted.

CEREAL LEAF BEETLE (CLB) (Oulema melanopus (Linnaeus)) – No newly infested counties were reported this year. There were 78 sites surveyed in 15 counties. The larval parasite, Tetrastichus julis, was recovered from two 1998 release sites in Cassia County. No recoveries of

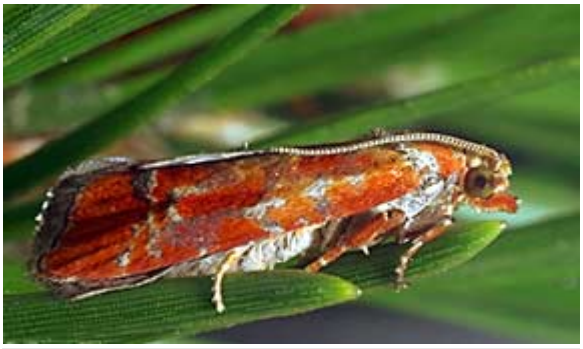
either larval or egg parasites were made from the other release sites in the state.

CHERRY FRUIT FLY (CFF) (Rhagoletis cingulata) - The Idaho State Department of Agriculture implements a trapping program and tracks degree-day accumulations calculations for the western cherry fruit fly. The California Department of Food and Agriculture requires this for compliance with their Western Cherry Fruit Fly Quarantine for states wishing to export fresh sweet cherries to or through California. No fruit flies were caught in any of the traps this year. A degree-day model is also used to supplement the trapping program. The degree-day calculations are based on a look-up table and the Oregon State University, Department of Entomology degree-day computer model, which is available on-line at "http://osu.orst.edu/Dept/IPPC/wea/." This site has several degree-day models for various pests around the Pacific Northwest. The look-up table is from the publication "Orchard Pest Management" as published by the Good Fruit Grower, Yakima, WA 1993 and control applications are recommended on or prior to 1060 degree-day accumulations according to the publication.

CFF Larvae in a pitted cherry

In 1999, Parma, Idaho exceeded the treatment threshold level of 1060 degree-days on May 31, 1999 with an accumulation of 1064 degree-days. Caldwell, Idaho exceeded the 1060 degree-day accumulation shortly after May 28, 1999 (accumulations were 988 degree-days on that date). The OSU computer model degree-day calculations for the western cherry fruit fly using the Parma data showed a degree-day accumulation of 1076 on June 3, 1999. In 1998, the 1060 degree–day threshold was exceeded on June 2nd in Parma and on June 3rd in Caldwell.

EUROPEAN PINE SHOOT MOTH (EPSM) (Rhyacionia bouliana Denis & Schiffermuller) -In 1999, detection surveys were carried out in all areas of the state where this insect is not known to occur. Trap sites were selected at each inspector's discretion based upon risk, accessibility, and presence of suitable host material. There were 122 traps placed in 26 counties. A new positive site was found in Boise County. This survey is performed to track EPSM's movement within the state for compliance with California, Nevada, and Oregon quarantines. Ten nurseries were trapped for compliance with the California EPSM quarantine. The EPSM is a pest of most Pinus sp. In Idaho it is most commonly found on Mugo pine in ornamental situations.



European pine shoot moth pictures used with permission. Copyright 1999. Jack DeAngelis, Oregon State University, All rights reserved.

EXOTIC BUR REED (Sparganium erectum L.) - A Federal noxious weed was accidentally introduced into the U.S. through a New Jersey nursery and on May 17, 1999 a USDA PPQ Pest Alert was issued. It was orginally thought that shipments were made only to Home Depot stores in 11 eastern States, but it was later found that shipment had been made to several western states also. In Idaho a total of 35 containers were seized at Home Depot stores in Boise, Meridian, and Idaho Falls by State and Federal Inspectors. Approximately 10-12 containers were sold and not recovered.

Exotic bur reed is an aquatic plant known to form dense colonies in shallow water hindering water flow and recreational activities. Its habitat includes the margins of ponds, lakes, streams, ditches and swamps. Its normal distribution is Eastern and Western Europe and the Soviet Union. It is of little or no importance for utilization by wildlife.

EXOTIC NEMATODE SURVEYS - There were 97 samples taken from nine northern Idaho counties. The samples were analyzed for the presence of the northern root-knot nematode, Columbia root-knot nematode, golden nematode, soybean cyst nematode, cereal cyst nematode, pea cyst nematode, and corn cyst nematode. All analyses for exotic species were negative, except for the detection of the northern root knot nematodes at a nursery in Bonner County. These nine counties represent those about which nematode occurrences are the least known in Idaho. Sampled counties include: Benewah, Bonner, Boundary, Clearwater, Idaho, Kootenai, Latah, Lemhi, Lewis, and Nez Perce. The most commonly encountered nematodes include the root lesion, stunt, spiral and pin nematodes.

The golden nematode female is golden when mature, hence the name.

GYPSY MOTH (GM) (Lymantria dispar (Linnaeus)) - Detection Trapping - In 1999 the cooperating agencies in the Idaho gypsy moth detection program placed 4,837 detection traps throughout the state (Table 1). Table 2 shows trap placement by county. Pheromone-baited traps were placed on a grid basis at a density of four traps per square mile. Traps were placed throughout the state in cities and towns and the surrounding urban areas and rural communities in accordance with a predetermined rotation schedule. Cities and communities where 20 or more move-ins occur are trapped irrespective of their place in the schedule. A move-in is defined as an individual or family moving to Idaho from a state that is generally infested with gypsy moths. This information is derived from vehicle registration information supplied by the Idaho Department of Transportation. Most infestations are initiated when an egg mass or other life stage of the gypsy moth arrives on an outdoor household article brought by someone moving into the area. Between May 1998 and April 1999, there were 4,989 move-ins to the state, a 1.5% increase over the previous year. Campgrounds, tourist attractions, and other high-risk locations were also trapped.

Delimitation Trapping – Delimitation traps were placed at 2 locations in 1999. At Huetter, between Coeur d'Alene and Post Falls in Kootenai County, 141 traps were placed in the 4 square miles surrounding the site where 5 gypsy moths were caught in 1998. At Weitas Campground in

Clearwater County, 14 delimitation traps were placed in the area where a single gypsy moth was caught in 1998. Due to the lack of significant contiguous host trees no delimitation traps were placed at Arco in Butte County where a single gypsy moth was caught in 1998. Instead the Arco area was trapped at the regular detection density again this year.

Mass Trapping – In the 10 acres immediately surrounding the catch site at Huetter traps were placed at a density of 9 traps per acre.

No gypsy moths were caught in Idaho in 1999.

Table 1 - Number of gypsy moth traps placed, by agency, in Idaho in 1999.

AGENCY	DETECTION TRAPS	DELIMITING TRAPS	MASS TRAPS	TOTAL TRAPS
Idaho Dept. of Lands	3065	141	90	3296
Idaho State Dept. of Agriculture	1255			1255
USFS - Region 4	419			419
USFS - Region 1	98	14		112
TOTALS	4837	155	90	5082

Table 2 - 1999 Trap placements by counties.

COUNTY NAME	NO.	DETECTION 4/MILE^2	DELIMITATION 36/MILE^2	MASS 9/ACRE	TOTAL TRAPS
Ada	1	367	0	0	367
Adams	2	0	0	0	0
Bannock	3	102	0	0	102
Bear Lake	4	4	0	0	4
Benewah	5	97	0	0	97
Bingham	6	28	0	0	28
Blaine	7	161	0	0	161
Boise	8	2	0	0	2
Bonner	9	1277	0	0	1277
Bonneville	10	106	0	0	106
Boundary	11	118	0	0	118
Butte	12	4	0	0	4
Camas	13	0	0	0	0
Canyon	14	173	0	0	173
Caribou	15	10	0	0	10
Cassia	16	19	0	0	19
Clark	17	6	0	0	6
Clearwater	18	26	14	0	40
Custer	19	22	0	0	22
Elmore	20	54	0	0	54
Franklin	21	8	0	0	8
Fremont	22	19	0	0	19
Gem	23	36	0	0	36
Gooding	24	0	0	0	0
Idaho	25	80	0	0	80
Jefferson	26	6	0	0	6
Jerome	27	0	0	0	0
Kootenai	28	1044	141	90	1275

COUNTY NAME	NO.	DETECTION 4/MILE^2	DELIMITATION 36/MILE^2	MASS 9/ACRE	TOTAL TRAPS
Latah	29	240	0	0	240
Lemhi	30	20	0	0	20
Lewis	31	0	0	0	0
Lincoln	32	0	0	0	0
Madison	33	15	0	0	15
Minidoka	34	22	0	0	22
Nez Perce	35	124	0	0	124
Oneida	36	6	0	0	6
Owyhee	37	0	0	0	0
Payette	38	35	0	0	35
Power	39	10	0	0	10
Shoshone	40	157	0	0	157
Teton	41	8	0	0	8
Twin Falls	42	193	0	0	193
Valley	43	206	0	0	206
Washington	44	32	0	0	32
TOTALS		4837	155	90	5082

HUETTER GYPSY MOTH ERADICATION PROJECT - In 1998, our detection survey caught 5 male gypsy moths in a single trap near Huetter, Idaho between the cities of Coeur d'Alene and Post Falls in Kootenai County. Inspection of the adjacent property turned up one viable egg mass and several other older life stages from the previous year. It was determined that the insects came to the area as viable egg masses which had been laid in an ornamental birdhouse. The birdhouse was subsequently brought to north Idaho as part of an inheritance. The timing allowed the eggs to hatch and produce a new generation of moths in 1998. Due to the character of the property, it was impossible to determine with sufficient confidence that additional viable egg masses were not present. Because of this uncertainty, an aerial spray eradication project was initiated to take place in the spring of 1999.

On May 13, May 20 and May 27, 1999 applications of Bacillus thuringiensis var. kurstaki (B.t.k) were applied to a thirty-five acre area surrounding the introduction site. Application was done by fixed wing aircraft. Coverage was measured with spray deposit cards and determined to be satisfactory. The spraying was completed with wind speeds at or lower than the standard that had been set.

Notices for each of the three anticipated treatments were posted in the local newspapers and filed with radio and TV stations. Calls were made to those families that had required special notification prior to each spray.

In the 10 acres immediately surrounding the introduction site, pheromone bated traps were placed at a density of 9 traps per acre. The remainder of the 4 square mile area surrounding the introduction site was trapped at a density of 36 traps per square mile. No gypsy moths were caught in any of these traps.

The total cost of the eradication project was $21,325.

Follow-up trapping will be done in this area each of the next 2 years to assure that eradication is complete.

The Idaho Department of Lands administers this trapping program. A more detailed report and historical information may be obtained by contacting Mr. Ladd Livingston, Idaho Department of Lands, 701 River Ave., Coeur d'Alene, Idaho 83816, Phone (208) 666-8624.

GRASSHOPPER / MORMON CRICKETS - Grasshopper hatch was first noted April 27 in Payette and Canyon Counties. Grasshopper density in infested areas ranged up to 50 per square yard but averaged closer to 20 per square yard. At the crop/rangeland border, however, populations in excess of 100 per square yard were observed. These infestations continued to develop eastward as the summer progressed. Movement into crops and homeowner plantings resulted in approximately 250 requests for assistance from State and Federal offices. Principal species associated with infestations included Melanoplus sanguinipes, Melanoplus bivitatus, Melanoplus packardi, Aulocara ellioti and Odaleonotus enigma.

Crop protection treatments began July 5 following weather delays in Payette County. Operations then shifted east with treatments July 9 in Cassia, Lincoln and Jerome Counties. The attached chart summarizes these treatments and those that followed. Twenty contracts were awarded for buffer strip treatments representing approximately 100 separate treatment blocks. The majority of the buffers were one-quarter mile or less in width. Approximately 400 miles of range and crop border equaling 47,342 acres were treated. Two contracts were completed by helicopter, the rest with fixed wing aircraft. Application costs per acre for 8 ounces of Malathion varied from $3.67 to $6.00 and averaged $4.34. Application costs per acre for 10 pounds of Carbaryl bait varied from $12.94 to $20.94 and averaged $16.42.

Concurrent with the treatments of Federal range lands, we helped distribute the Idaho Department of Agriculture (ISDA) supplied 5% Carbaryl bait to farmers for their own use in controlling grasshoppers and Mormon crickets. This bait was a great help to the farmers who fell outside of Federal program guide lines. A total of 84,000 pounds of bait was distributed, either directly to or through the County Extension Agents. Ten bait spreaders were also made available to landowners for the broadcasting of the ISDA bait.

The 1999 season began with funding from the Bureau of Land Management (BLM) in the amount of $90,000. Additionally, ISDA provided funding for three seasonal employees. On July 15, additional funding from USDA was made available in the amount of $500,000. At about this same time, the BLM provided an additional $250,000 that, unlike the USDA funds, could be retained for the year 2000 effort. With additional funding, 6 more seasonal employees were hired and 6 additional Plant Protection and Quarantine (PPQ) personnel were brought in from other states for two to three week periods. A map of grasshopper infestation levels is attached.

Most treatments targeted sub-adult grasshoppers, which are the most easily controlled with the chemical used. Both Carbaryl bait and Malathion produced good control in the buffer strips. However grasshoppers moved into crops in some areas before control could be achieved. Many farmers were ineligible for Federal assistance due to an intervening strip of private range between their crop and Federal rangelands. Of the areas treated in 1998 with quarter-mile buffers of Malathion, all were re-treated in 1999. One treatment in 1999 consisted of a half-mile buffer, this will be evaluated in 2000 for any possible multi-year efficacy.
The ISDA spent approximately $107,000, the majority of which was used to purchase bait. The BLM spent approximately $50,000 for control work prior to USDA funding on July 15. USDA

spent approximately $369,000. The majority of these funds were spent on contracts for aerial treatments. Total costs were $526,000.

In addition to the principal cooperators of the ISDA, BLM and PPQ, it should be noted that the U.S. Forest Service and Idaho State Department of Lands also cooperated for treatments on their lands. ISDA also provided an inspector to act as liaison with beekeepers and provided bulletins to beekeepers and organic farmers. USDA APHIS Wildlife Services provided an aircraft and pilot for reconnaissance for bee yards, and a horse and rider for survey of Mormon crickets in the Danskins area. The Forest Service was also responsible for the timely repair of our radio repeater on Mt. Harrison. University of Idaho, County Agricultural Extension Leaders played an instrumental role in the distribution of bait and information.

The 1999 adult survey estimated 1,858,000 acres with grasshopper densities at 8 or more per square yard. This compares to 1,162,000 acres so classified in the 1998 adult survey. The attached table and map detail this survey. It should be noted that while the survey may indicate general trends it cannot absolutely predict populations in the year 2000. However, the trend is clear that the potential for widespread grasshopper problems persists. In addition, it should be noted that no survey was conducted in the Salmon or Coeur d'Alene districts.

Resources in place for crop protection programs in 2000 include $288,000 in BLM funding and 72,000 pounds of Carbaryl bait. Ten additional bait spreaders have been purchased by ISDA.

1999 TREATED ACREAGE

COUNTY	LOCATION	BAIT ACRES	MALATHION ACRES	SPRAY DATES
PAYETTE	SAND HOLLOW	500		JULY 5
MINIDOKA/ BLAINE	MINIDOKA		1824	JULY 17,16
JEROME/LINCOLN	SUBSTATION		1488	JULY 9
CASSIA	OAKLEY		1280	JULY 9
LINCOLN	HIDDEN VALLEY		2768	JULY 10
JEROME	CRESTVIEW		4448	JULY 12,17
JEROME	HUNT	800		JULY 14
LINCOLN	STAR LAKE		1920	JULY 18,19
MINIDOKA	EAST KIMAMA/SENTER		3504	JULY 17
LINCOLN				JULY 19,25,26
JEROME/LINCOLN	NOTCH BUTTE		2080	JULY 20
TWIN FALLS	SALMON FALLS CREEK		1040	JULY 21
GOODING	GOODING	400		JULY 27
CASSIA / MINIDOKA BLAINE	LAKE WALCOTT	480	3200	JULY 26
POWER	BONANZA BAR	110	3944	JULY 29, AUG. 3,9
CASSIA	ARTESIAN CITY		1792	JULY 30,31
BINGHAM	TABER PINGREE		3600	AUG. 1
			880	AUG. 10
GOODING	BLISS POINT	500		

COUNTY	LOCATION	BAIT ACRES	MALATHION ACRES	SPRAY DATES
BINGHAM	TABER TWO		5744	AUG. 4,5
TWIN FALLS / ELMORE	BELL RAPIDS		3440	AUG 5
ONEIDA	HOLBROOK	1500		AUG 21

1999 ADULT GRASSHOPPER SURVEY- INFESTED ACRES BY LAND OWNERSHIP TYPE (8 or more grasshoppers per square yard)

COUNTY	TOTAL	PRIVATE	STATE	BLM	USDA-FS
ADA	143,000	24,000	2,000	117,000	
ADAMS	134,000	64,000	3,000	22,000	45,000
BANNOCK	43,000	11,000	9,000	7,000	16,000
BINGHAM	136,000	45,000	12,000	79,000	
BLAINE	88,000	18,000	5,000	65,000	
BOISE	32,000	14,000	4,000	2,000	12,000
BONNEVILLE	50,000	24,000	14,000	6,000	6,000
CANYON	22,000	13,000		9,000	
CASSIA	134,000	30,000	8,000	86,000	10,000
ELMORE	70,000	15,000	5,000	44,000	6,000
FREMONT	28,000	8,000	5,000	10,000	5,000
GEM	126,000	45,000	4,000	65,000	12,000
GOODING	140,000	17,000	8,000	115,000	
JEROME	94,000	14,000	1,000	79,000	
LINCOLN	125,000	30,000	3,000	92,000	
MINIDOKA	66,000	6,000	2,000	58,000	
ONEIDA	97,000	20,000	4,000	55,000	18,000
OWHYEE	32,000	12,000	2,000	18,000	
PAYETTE	67,000	17,000	3,000	47,000	
POWER	46,000	22,000	3,000	19,000	2,000
TWIN FALLS	28,000	3,000	1,000	20,000	4,000
WASH.	145,000	60,000	2,000	81,000	2,000
VALLEY	17,000	10,000	4,000		3,000
TOTALS	1,863,000	522,000	104,000	1,096,000	141,000

Minidoka and Power Counties also had a few thousand acres of Bureau of Reclamation lands infested, which are not reflected in the above figures.

This report was prepared by Mr. Rob McChesney, USDA-APHIS-PPQ, 9134 W. Blackeagle Drive, Boise, Idaho 83709, Phone (208) 378-5797.

JAPANESE BEETLE (Popillia japonica Newman) – Traps were placed at 194 sites in 42 counties. All traps were negative. Japanese beetle quarantines are

maintained and vigorously enforced by California, Idaho, Oregon, Utah, and Washington. This beetle and its larval form are known to infest over 400 horticultural and ornamental plants, including sod. Establishment of the beetle in Idaho could seriously affect exports to those states and British Columbia. It is known to infest most states east of the Mississippi River.

JAPANESE CEDAR LONG-HORNED BEETLE (Callidiellum rufipenne (Motschulsky)) - This wood boring beetle has been found in nurseries in North America since 1927 when it was found in Vancouver, B.C., Canada, in 1956 in Seattle, WA, and most recently in the Eastern U.S. on American arborvitae (Thuja occidentalis) in Connecticut and on dead eastern red-cedar (Juniperus virginiana) in North Carolina. The beetle is endemic to East Asia occurring in China, Korea, Sakhalin, the Ryukyu Islands and Japan. In central Japan, there is one generation per year. Adults emerge from dead trees in spring (April/March) and mate on the surface of the trunk of weakened or dead trees. Females are able to lay eggs 1-3 days after emergence indicating that maturation feeding is not required for oviposition. The eggs are laid in bark crevices. Larvae hatch, enter the bark and feed on phloem and cambium by constructing galleries. Mature larvae enter the xylem in late summer, pupate within cells in the fall, and over-winter as adults. More information can be found on this pest at the following Internet Web Sites:

1) http://www.state.ct.us/caes/NewsReleases/newsbeetl.htm
2) http://www.cfia-acia.agr.ca/english/ppc/science/pps/phews/docs/1998/ewsmar1698.html
3) http://www.state.ct.us/caes/APestAlert/pestALT.htm

In Idaho, the pest was discovered on artificial Christmas trees imported from China to 14 different retail outlets across the state. State and Federal inspectors inspected several thousand trees for signs of the beetle after being alerted that live beetles had been found on trees in Kansas and Oregon. Several dead beetles and damaged wood was found. Only one live beetle was found on an artificial tree in the Treasure Valley. The tree was destroyed by incineration. Apparently the shipmen was not fumigated prior to importation or the fumigation was only partially effective.

KARNAL BUNT (Tilletia indica) – There were 44 samples processed and entered into the National Agricultural Pest Information System (NAPIS) system. All of the samples were collected and analyzed according to the 1999 National Karnal Bunt Monitoring Plan. All samples were negative for Karnal bunt. A complete listing of all survey samples taken are listed below:

COUNTY	POSITIVE	NEGATIVE	TOTAL
ADA	0	1	1
BENEWAH	0	2	2

COUNTY	POSITIVE	NEGATIVE	TOTAL
BONNEVILLE	0	5	5
BUTTE	0	2	2
CARIBOU	0	2	2
CASSIA	0	1	1
CLARK	0	1	1
FRANKLIN	0	1	1
GEM	0	1	1
GOODING	0	1	1
IDAHO	0	4	4
JEROME	0	3	3
LATAH	0	7	7
LINCOLN	0	1	1
MINIDOKA	0	5	5
ONEIDA	0	1	1
PAYETTE	0	1	1
TWIN FALLS	0	5	5
TOTAL			44

KHAPRA BEETLE (Trogoderma granarium (Everts)) Forty sites in 22 counties were trapped for the presence of the Khapra Beetle (Trogoderma granarium). Trece' "Storgard Flite-Trak M^2" traps were used and re-baited half way through the survey period. The traps are designed to attract Tribolium spp., Trogoderma spp., and Oryzaephilus spp. Seed companies and feed mills that grow, sell, or import seed and/or grain were targeted for survey. Five traps were placed at each site and serviced every two weeks (200 traps were placed for the entire survey). Specimens collected were preserved in alcohol and sent to Mr. Frank Merickel, Collection Manager, WFBARR Entomological Museum at the University of Idaho in Moscow, Idaho for identification. No Khapra beetles were detected. This data will be entered into the NAPIS system this winter. Many stored product pests that were detected were mostly of the genera Trogoderma, Cryptolestes, Oryzaephilus, Ptinus, and Sitophilus. The Khapra beetle is considered to be one of the world's most destructive pests of grain products and seeds and are subject to numerous quarantines, domestic and Federal. It probably originated from regions in India and Bangladesh, but has since spread to other areas including northern and eastern Africa, southern Europe and the Mediterranean region, the Middle East, and east into Asia. This pest thrives in warm, dry climates. Populations build rapidly in a short time under hot, dry conditions, but can survive in colder climates in heated situations such as warehouses, food plants and grain storage. The beetle cannot fly and is therefore spread mainly by commerce and trade.

ORIENTAL FRUIT MOTH (Grapholita molesta (Busck)) - Historical data shows that this pest is known to occur in Ada, Canyon, Cassia, Gem, Owyhee, Payette, and Washington counties. It is primarily a pest of stone fruit, but can be found in apples, pears and roses. It is a quarantine pest for the shipment of stone fruit to Canada and Mexico. This year it was confirmed in Boise County. Traps were set in six counties (62 traps total) and positive catches were made in

Gem and Boise Counties in yard trees and under managed orchards. This pest is not generally found in well-managed orchards in Idaho.

DISEASES AND PESTS FOUND DURING 1999 FIELD INSPECTIONS FOR EXPORT CERTIFICATION

Alfalfa seed: Alfalfa mosaic virus was detected in 344 acres. Canada thistle was detected in 1,185 acres. Leafy Spurge was detected in 80 acres. Spring blackstem was detected in 13 acres. No Verticillium albo-atrum, Clavibacter michiganensis pv. insidiosus, Xanthomonas campestris pv. alfalfae, Ditylenchus dipsaci, Hieracium pilosella, Orobanche spp.,or Striga spp. were found.

Barley: Three trial plots totaling four acres were submitted for inspection. No species of Tilletia, Ustilago, or Urocystis spp. were observed.

Beans, Dry: Bean common mosaic virus was observed in 16 acres. Bean southern mosaic virus, Pea early browning virus, and Pea enation mosaic virus were not observed in any of the fields. No Halo blight, Common blight, Fuscus blight, Brown spot, Bacterial wilt, or Anthracnose was observed in any field.

Beans, Garden: Bean common mosaic virus was detected in 41 acres. Bean southern mosaic virus, Pea early browning virus, and Pea enation mosaic virus were not observed in any of the fields. No Halo blight, Common blight, Fuscus blight, Brown spot, Bacterial wilt, or Anthracnose was observed in any fields.

Cabbage: No diseases of quarantine or export significance were found.

Cantaloupe: Fields were inspected for Cucumber mosaic virus, Muskmelon mosaic virus, Squash mosaic virus, Watermelon mosaic virus, Xanthomonas campestris pv. cucurbitae, Pseudomonas syringae pv. lachrymans, Mycosphaerella melonis, Colletotrichum lagenarium, and Acidovorax avenae supsp. citrulli. None of the diseases listed were observed in any fields submitted.

Carrot: Fields were examined for Alternaria dauci, A. radicina, Cercospora carotae, Erwinia carotovora, and Xanthomonas campestris pv. carotae. No diseases of quarantine significance were observed.

Clover: Seventeen fields totaling 387 acres were inspected and found free from Leafy spurge, Broomrape, and Witchweed. Forty-Five acres were found infested with Canada thistle.

Corn: No Downy mildew diseases, Maize dwarf mosaic virus, Maize chlorotic mottle virus, Southern corn leaf blight, or Stewart's bacterial blight were observed. Fusarium moniliforme was observed in 2.5 acres. Thirteen fields totaling 79.5 acres were positive for High plains virus. Three fields totaling 10.5 acres were positive for Wheat streak mosaic virus. Numerous fields totaling 304.5 and 288.8 acres respectively were found positive for Head smut and Common smut.

Cucurbita spp.: Ten fields totaling 29 acres, including trial plots, were inspected for several diseases including Cucumber mosaic virus, Muskmelon mosaic virus Squash mosaic virus, Watermelon mosaic virus, Pseudomonas syringae pv. lachrymans, Xanthomonas campestris pv. vesicatoria, and X. campestris cucurbitae. None of the diseases listed were observed.

Garlic: Two fields totaling 14.5 acres were inspected and found free from any disease symptoms of quarantine significance.

Hops: One field was inspected for and found free of Verticillium dahliae.

Lettuce: Inspections for Lettuce mosaic virus were negative on all fields checked.

Mint: Nineteen fields totaling 229 acres were inspected for Mint root borer, Mint stem borer, and Verticillium dahliae. Forty-four and one-half acres were confirmed positive for Mint root borer.

Onion, Chive, Leek: All fields inspected were found free from Ditylenchus dipsaci, D. destructor, Alternaria porri, Urocystis magica, Colletotrichum circinans, Onion yellow dwarf virus. Three acres were found infested with Botrytis alli. One fifeteen-acre field was found infested with Sclerotium cepivorum. The field was manually harvested under ISDA supervision to ensure soil potentially harboring the pathogen was not removed from the field. The field will no longer be planted to any species of the genus Allium.

Onion White Rot sclerotia on a bunching type onion

Peas: No Ascochyta pisi, Pea early browning virus, Pea enation mosaic virus, Pea seedborne mosaic virus or Xanthomonas campestris pv. phaseoli were observed in any of the fields. Inspections confirmed 149 acres positive for Pseudomonas syringae pv. pisi.

Pepper: Two trial plots totaling two acres were inspected and found free from observable diseases of quarantine significance.

Radish: Fields were inspected and found free from Colletotrichum higginsianum, Xanthomonas campestris pv. campestris, and X. campestris pv. raphani.

Turnip: Two fields totaling 39 acres were inspected and found free from Alternaria brassica, Colletotrichum lagenarium Leptosphaeria maculans, Pseudomonas syringae pv. maculicola, and Rhizoctonia solani.

Wheat: A single one-acre plot was inspected and found free from common smut, dwarf bunt, flag smut, and loose smut.

The field disease report is complied by Curt Thornburg and Garry West with the Idaho State Department of Agriculture in Boise, Phone (208) 332-8620 and Twin Falls, Phone (208) 736-2195 respectively.

NUMBER OF FIELDS AND ACREAGE'S SUBMITTED FOR INSPECTIONS UNDER THE IDAHO RULES FOR PHYTOSANITARY AND POST-ENTRY CERTIFICATION AND RULES CONCERNING BACTERIAL DISEASES OF BEANS FOR THE 1998 FIELD SEASON

SPECIES	NUMBER OF FIELDS	SUBMITTED ACRES	INSPECTED ACRES
Alfalfa	261	4,660.6	4,622.6
Barley	3	4	4
Beans, Dry	317	5,058.6	11,057.2
Beans, Garden	1,161	17,958.16	39,464.92
Cabbage	2	14	14
Cantaloupe	15	40.25	39.25
Carrot	40	273.7	273.7
Chive	3	24	24

SPECIES	NUMBER OF FIELDS	SUBMITTED ACRES	INSPECTED ACRES
Corn	928	7,925.71	14,447.92
Corn, Area	67	1,192.5	
Cucumber	2	0.35	0.35
Dill	1	6	Field Destroyed
Garlic	2	14.5	14.5
Leek	13	62	62
Lettuce	58	430.5	430.5
Mint	19	229	437
Onion	149	1,071	1,070.35
Peas	578	11,137.8	17,229.9
Peas, Area	159	6,424.2	
Pepper, Bell	4	1.1	1.1
Pepper, Hot	4	.75	.75
Potato	3	162	162
Pumpkin	2	1.5	1.5
Radish	34	435	435
Red Clover	17	431.5	431.5
Squash	2	1.5	1.5
Turnip	2	39	392
Watermelon	2	.35	.35
Wheat	1	1	1
TOTALS	3,867	58,138.77	90,756.09

PLANT PATHOLOGY LAB SAMPLE SUMMARY 1999
1999 Year End Summary

The Plant Pathology Lab received 629 samples for the year 1999, and ran a total of 1,538 tests on these samples. The average turnaround time for a sample was 20.37 days.

The lab received 235 bean samples; 184 were seed samples and 51 were field samples. Of the seed samples, 3 were positive for one or more restricted pathogens. From these positive lots, two lots from Wyoming were found positive for halo blight, and one lot from California was positive for common blight. From the 51 field samples, eleven were positive for restricted pathogens, and one was suspicious. Of the positives, ten fields were found infected with bean common mosaic virus, and one with alfalfa mosaic virus. This year there were no fields found infected with the brown spot pathogen, Pseudomonas syringae pv. syringae.

The lab participated again this year in a field study to discern the number of crops that could harbor Pseudomonas syringae pv. syringae as an epiphyte. Alfalfa was again implicated as a host, as well as Siberian pea shrub. Both of these plants harbored bacteria that were pathogenic to beans in greenhouse studies.

The lab tested 23 lots of seed for human pathogens Eschericia coli 0157:H7 and Salmonella spp. Sprout producers are growing more concerned with possible infection of the sprouts via the seed. This year with the help of the Health and Welfare Lab, one lot was found positive for Salmonella spp., none for E. coli. We also tested some animal feed products for the presence of Salmonella spp. Three lots of pig's ears were found positive. All positives came from different locations of the same retail establishment in their bulk bins. All were, however, of different serotypes.

The Karnal Bunt Survey was conducted again this year. We found no positive samples out of 43 samples tested. A summary of all samples process this year is in the table below:

CROP	# SAMPLES	# TESTS	POSITIVES (Organism)
Bean			
seed	184	918	2 (*Pseudomonas syringae phaseolicola*)
			1 (*Xanthamonas campestris phaseola*)
field	51	117	1 (Alfalfa Mosaic Virus)
			10 (Bean Common Mosaic Virus)
			1 (Poty-virus, neg BCMV)
Pea			
seed	21	22	4 (*Pseudomonas syringae pisi*)
field	48	60	4 (*Pseudomonas syringae pisi*)
			1 (*Ascochyta* sp.)
			1 (*Fusarium* sp.)
Misc Seed			
alfalfa	49	75	1 (*Clavibacter michiganense insidiosum*)
barley	2	3	1 (*Xanthamonas campestris translucens*)
broccoli	5	10	0
cauliflower	1	2	0
chives	1	2	1 (*Salmonella enterica*)
clover	1	2	0
garlic chives	1	2	0
leek	1	2	0
onion	1	2	0
radish	12	17	0
spinach	1	1	0
tall fescue	1	1	0
tomato	1	1	0
Wheat			
seeds	46	48	1(*Tilletia controversa*)
Feed Products	9	9	3 (*Salmonella* spp. *)
Sugarbeet	57	79	20 (Beet Necrotic Yellow Vein Virus)
Potatoes			
seed	7	21	1 (Potato Leaf Roll Virus in excess)
field	5	5	0
Field Crops			
alfalfa	35	43	22 (Alfalfa Mosaic Virus)

CROP	# SAMPLES	# TESTS	POSITIVES (Organism)
			3 (*Phoma* sp.)
			1 (*Stemphyllium* sp.)
aspen	1	2	0
carrot	6	8	0
corn	51	51	11 (High Plains Virus)
			8 (*Ustilago maydis*)
			1 (*Sphacothecia reilaina*)
			2 (HPV + Wheat Streak Mosaic Virus)
			1 (Wheat Streak Mosaic Virus)
cranberry	1	2	0
Cyclamen	1	1	
dogwood	1	2	0
flower bulbs	1	2	
garlic	2	2	1 (*Fusarium* spp.)
ivy	1	1	
Japanese barberry	1	1	0
leek	1	1	0
lettuce	5	5	0
lilac	1	1	0
maple	1	1	
mint	1	1	0
onion	11	11	1 (*Botrytis*)
radish	1	1	0
red clover	1	1	0
spa equipment	1	2	1 (*Aspergillus* spp., *Pseudomonas aeruginosa*)
TOTAL	629	1538	101

The plant pathology laboratory report is compiled by Ms. Liz Vavricka, Principal Microbiologist, Boise, ID, Phone (208) 332-8640.

EXPORT CERTIFICATIONS FOR THE 1999 CALENDAR YEAR

The Bureau issued 3,310 Federal and 3,227 State phytosanitary certificates for 85 different types of commodities to 105 countries. The Bureau certified 127,391,994 pounds of seed and other commodities for export.

NURSERY INSPECTIONS FOR COMPLIANCE WITH THE IDAHO NURSERY LAW TITLE 22, CHAPTER 23 IDAHO CODE

In 1999, there were 1,442 licensed nurseries and of those 1,035 were inspected for compliance with the Nursery and Florists law and the presence of plant pests and noxious weeds. In addition, specific checks were made for compliance with various state laws, quarantines, or pests of particular concern. The results are listed below:

Quarantine/Pests	No. Inspections	Incidents	Corrective Action	Stop Sales
Certified Seed Potatoes	133	6		5
Japanese Beetle	325			3
Pine Shoot Beetle	315			
Noxious Weeds	463	13	6	
Aphids	601	71	32	
Onion White Rot	179	26	3	13
European Pine Shoot Moth	319	17	12	
Grape Quarantine	138	3		
Gypsy Moth	366			
Hops Quarantine	96			
Idaho Seed Law	354			
European Corn Borer	316	1		1
Mint Quarantine	175	1		
Peach Tree Quarantine	150			
Red Imported Fire Ants	293			
Nematodes	47	1	1	
Late Blight	361			
General Pests	1,035	173	36	6
Total Inspections	5,666	312	90	28

This annual report and previous years reports, as well as pest distribution maps, laws, rules, press releases, and various forms can be found on the Department's World Wide Web Home Page at "**http://www.agri.state.id.us".**

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